

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/002648

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C07D501/00 A61K31/545

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, WPI Data, PAJ, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 839 350 A (ATSUMI KUNIO ET AL) 13 June 1989 (1989-06-13) the whole document	1-31, 34
X A	column 24; example 18 Reference Example 1	16-21 32, 33
X	EP 0 658 558 A (BIOCHEMIE GMBH) 21 June 1995 (1995-06-21)  the whole document	1-15, 22-31, 34, 37, 38
P, A	WO 03/091230 A (DESHPANDE PANDURANG BALWANT ; KAMMA RAMAKRISHNA (IN); LUTHRA PARVEN KU) 6 November 2003 (2003-11-06) - the whole document  ----- -/-	1-15, 22-34

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

15 June 2005

Date of mailing of the international search report

24. 06. 2005

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 016 665 A (MEIJI SEIKA KAISHA) 5 July 2000 (2000-07-05) the whole document	1-15, 22-31, 34
X	page 4, reaction scheme and paragraph '0008!	32, 33
X	US 4 918 068 A (YAMAMOTO ET AL) 17 April 1990 (1990-04-17) example 4	16-21
A	EP 0 597 429 A (BIOCHEMIE GESELLSCHAFT M.B.H) 18 May 1994 (1994-05-18) the whole document	32, 33
X	SAKAGAMI K ET AL: "SYNTHESIS AND ORAL ACTIVITY OF PIVALOYLOCYMETHYL7-Ä(Z)-2-(2-AMINOTHIA ZOL-4-YL)-2-METHOXYIMINOACETAMIDOÜ-3-(Z)-( 4-METHYLTHIAZOL-5-YL)VINYL- 3-CEPHEM-4-CARBOXYLATE (ME1207) AND ITS RELATED COMPOUND" CHEMICAL AND PHARMACEUTICAL BULLETIN, PHARMACEUTICAL SOCIETY OF JAPAN, TOKYO, JP, vol. 39, no. 9, September 1991 (1991-09), pages 2433-2436, XP009042230 ISSN: 0009-2363 the whole document	32, 33, 35, 36
A	EP 0 723 965 A (MEIJI SEIKA KAISHA LTD; MEIJI SEIKA KAISHA, LTD) 31 July 1996 (1996-07-31) the whole document	32, 33
X	page 7, line 35, ME1206 (sodium salt)	16-23
X	US 2002/002279 A1 (YASUI KIYOSHI ET AL) 3 January 2002 (2002-01-03) the whole document	35, 36
X	KENJI SAKAGAMI ET AL.: "Synthesis and Oral Activity of ME1207, a New Orally Active Cephalosporin" THE JOURNAL OF ANTIBIOTICS, vol. XLIII, no. 8, 1990, pages 1047-1050, XP009049100 the whole document	32, 33, 35, 36
X	US 5 233 035 A (HARA ET AL) 3 August 1993 (1993-08-03) example 38	32, 33

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International application No.  
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## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-15,22-31,34

Claims 1-15:

Subject matter relating to the preparation of cefditoren,  
pharmaceutically acceptable salts or ester thereof  
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2. claims: 16-21

Subject matter relating to a crystalline hydrates of  
ceftidoren sodium and crystalline hydrate of ceftidoren  
potassium  
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3. claims: 32-33

Process for the preparation of 7-ATCA (formula IX)  
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4. claims: Claims 35-38

Subject matter relating to Z-isomers of cefditoren pivoxil  
and the Z isomer of 7-ATCA  
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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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